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Enlighten: research and APC funding workflows at the University of Glasgow

This paper provides an overview of the research funding and article processing workflows provided by the University of Glasgow's open source institutional repository – Enlighten – and how these have evolved, in particular with the recent introduction of the Research Councils UK (RCUK) open access policy. Enlighten is an embedded repository which now supports a range of activities beyond its original open access (OA) remit. Compliance with research funder policies and support for article processing charges (APCs) are now key components of its expanded remit.

Enlighten

The University of Glasgow has been working with repositories since 2001, our first work having been part of the Jisc-funded FAIR Programme[1], and we now have two main repositories: Enlighten for research papers (and the focus of this article) and a second for University doctoral theses. This article focuses on Enlighten and research funding workflows, particularly article processing charges (APCs). As of April 2013 there were nearly 60,000 records for research outputs produced by members of the University of Glasgow in Enlighten. Currently, 9% of our outputs have freely available full text and from December 2008 to the end of April 2013 there were over three quarters of a million downloads.

The University introduced a Publications Policy in 2008 – one of the first introduced in Scotland – which has a number of key aims:

- to increase the visibility of research publications associated with the University of Glasgow

- to maximize the value for the University, e.g. league tables

- to comply with funder requirements.

This support for funder requirements has been an integral element of our policy and it specifically notes: 'Many of the major funding bodies such as the Wellcome Trust, etc., already have in place open access policies that require authors to deposit an 'author final version' of their papers in a repository so acceptance of this version of a paper is widespread. Repository staff can check funders' open access policies and where staff are already required by their funders to deposit in a subject-based repository, such as UK PubMed Central, repository staff will ensure that links are made from Enlighten to the relevant repository. There will therefore be no requirement for staff to deposit in more than one repository.'[2]

Embedding the repository

Today we consider Enlighten to be an 'embedded repository'[3]; that is, one which has been integrated with other institutional services and processes such as research management, library and learning services. The Jisc-funded Enrich project[4] (2010) provided a clear focus

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for the integration and enhancement of Enlighten with other institutional systems, including our Research System (for funder data) and our Identity Vault (for staff records). This work has lowered the barriers to deposit and increased the range of information held – in particular, funding information.

We have integrated Enlighten with other institutional services in various ways, including:

- enabling sign-on with institutional ID (GUID) via lightweight directory access protocol (LDAP)

- disambiguating author names

- linking publications to funder data from the Research System

- feeding institutional research profile pages

- providing data for internal and external management processes

- enabling the University to understand and manage its research output.

> "… compliance with research funder policies is a key component …"

As an embedded repository, Enlighten now supports a range of activities beyond our original open access aims to provide freely available access to as many of our research outputs as possible, and compliance with research funder policies is a key component of these activities.

Enlighten is an institutional repository that has continued to evolve to respond to the institution's needs to ensure compliance with funders. Metadata about research activity including funder, funder's grant number and internal project and award number combination is imported from our Research System and surfaced in the repository. Linking this data together enables us to use the repository to demonstrate compliance with funder mandates and to generate reports for funder systems like the UK's Research Outcomes System[5]. We are also exploring how to record even more details of other outputs for which research funders require reports. For example, we have already added key findings and are working with peer sites on standard definitions for a range of publication outputs.

Introducing a new funding option to the deposit workflow in 2010

Enlighten runs on the EPrints.org software from the University of Southampton. By default, EPrints includes free text fields for project and for funder. These fields, however, were not sufficient for the rich set of funding data which we wanted to include from our Research System. We removed these and replaced with a new a multi-value 'funder' field which includes:

- internal project and award number

- award number

- principal investigators (and associated project staff)

- full funder name

- funder grant award number

- lead university school.

This field was added to a new funding workflow option for depositors. This has enabled project and funder data to be linked to research outputs, such as publications, and has provided a higher profile for funder data in the deposit workflow. (See Figure 1.)
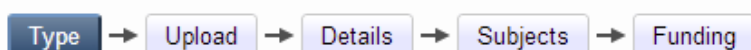

Figure 1: Deposit workflow in Enlighten

Enabling a multi-value funder field with funder autocompletion

The new funder field does not directly search the Research System; instead, the data is autocompleted from a locally held XML file, which maps to the new funder multi-value field. This data is exported from the Research System and imported into Enlighten on a nightly basis. When staff type any funding data in these fields, e.g. keyword in the project name or surname in the principal investigator, they are offered a range of matching projects, which, when selected autocomplete with the data from the Research System. We don't expect staff to complete any of this information manually. (See Figure 2.)

Figure 2. Enlighten funder field with autocompletion

At the University of Glasgow, a project can have multiple awards attached to it. For instance, funding may come from Wellcome and from an RCUK funder such as ESRC. In Enlighten, each tranche of funding is identified as a separate award so that we can more precisely tie a publication to its distinct award.

Funder data in item and browse views

New research browse views were added to Enlighten. These provide browse views by funder name and internal project code number, and provide report options for entities such as the RCUK funding bodies. (See Figure 3.)

Figure 3. Research browse views

Funder and project information is surfaced in individual records providing details of the project name, funder and grant number. (See Figure 4.)

Figure 4. Item record with funder data

Workflow challenges

There are two key challenges for the management of the funder data. The first is a challenge for the depositor, particularly if they are acting as a proxy depositor, to be able to provide the appropriate funding information. The second challenge is for repository staff after funder data has been added. Since the data feed only includes awards that have been marked as 'publicity yes' in the Research System, it is sometimes necessary for repository staff to amend the publicity flag to 'yes' (where appropriate) in order that the funder details can be added to the output. It is rare that the publicity flag remains at 'no' and the award cannot be linked to the output for public display, but occasionally there is some confidentiality that requires this.

Managing green and gold open access

In July 2012, the UK Government accepted the recommendations of the 'Working Group on Expanding Access to Published Research Findings'[6] ('Finch Report'). This recommended a clear policy direction towards gold open access for the UK (i.e. towards payment of article processing charges for open access publication).

RCUK also announced in July 2012 that from April 2013 it would provide 'a new funding mechanism - a block grant to universities and eligible research organisations to cover the cost of article processing charges (APCs)'.[7] While much of the focus of this work was on gold, there are opportunities for institutions to support green open access (i.e. the deposit of an accepted final version into a repository) and, more critically for the repository, to act both as the platform for green open access papers as well as to support the reporting and management of the twin routes of OA.

New fields and reporting options added to the repository will enable us to identify the proportion of our papers which are not only OA in general, but which are green or gold in particular, and if the paper is gold OA, that it is funded by the University of Glasgow. This will enable us to monitor our publication profile and have the data necessary for the funding councils. These outputs will also be linked to funder grant numbers.

BIS pump priming

The University of Glasgow was one of 30 UK research-intensive institutions which received a proportion of the £10m investment from the government's Department of Business, Innovation and Skills (BIS) to help institutions oversee the transition to open access for publicly funded research findings.

The Finch Report acknowledges that there will be a transition period where both green and gold routes will be used to achieve open access and that additional public funding has to be found (supplemented by funds diverted from research funding and by seeking to reduce subscription fees the University pays to publishers).

The BIS funding has been used to pilot payment of APCs, allowing library staff to investigate engagement with academic staff, the administrative processes involved with the payment of APCs, and to increase the deposit of full text into Enlighten.

"The BIS funding has been used to pilot payment of APCs …"

RCUK OA policy

RCUK issued their finalized open access policy[8] on 8 April 2013. This policy states that researchers can no longer build provision for APCs into their grant applications. Instead, RCUK will give institutions an annual block grant to cover these charges. In five years' time, RCUK expects that 75% of outputs arising from their grants will be gold OA and 25% green OA.

The University of Glasgow's approach

The University's Research Planning and Strategy Committee (RPSC), chaired by the Vice-Principal (Research and Enterprise), reviewed and discussed the RCUK policy and

recommended that the University should follow both green and gold routes to open access. The RCUK block grant is unlikely to be enough to cover all potential APCs and the University will manage the disbursement of these funds on the basis of this green/gold mix. The Library was charged with administering institutional open access funds starting with the BIS pilot and including the RCUK grant. (See Figure 5.)
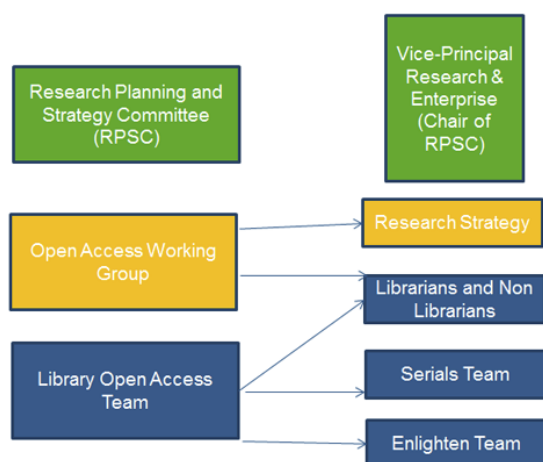

Figure 5. University of Glasgow committees involved in OA planning

Library staff have been identifying papers for which payment of an APC is appropriate, liaising with the publisher on behalf of the author and advising on whether deposit into Enlighten is an acceptable alternative to payment of an APC (checking publisher/journal copyright procedures).

A new open access website was launched in January to provide information about the various options for green and gold OA as well as the University's publication policy and guidance for deposit into Enlighten. The authors gratefully acknowledge the OA guidance developed by colleagues at the University of Oxford. (See Figure 6.)

Figure 6. University of Glasgow OA website and eligibility for RCUK block grant funding

Article processing charges workflow

The current APC workflow calls for University staff to contact the Enlighten team with details of their publication (including journal name and funder) at the point when it has been accepted for publication. This information should be submitted once the author has received an e-mail or letter confirming the journal is committed to publishing the article and before the article is actually published. These details are sent by University staff to a dedicated open access e-mail account.

Library staff aim to confirm within five working days if open access can be funded from central sources such as the RCUK block grant, or if deposit of the author final version in the institutional repository will satisfy funder requirements. In practice, this confirmation typically takes place well within the five-day window.

As we go forward, in accordance with RCUK policy, we are also requiring all papers include the following:

- acknowledgement of the funder name/s and funder grant references in the format 'This work was supported by the Medical Research Council [grant number xxx]' as advocated by RCUK and recommended by RIN, and

- a statement on how the underlying research materials, such as data, samples or models, can be accessed.

New fields have been added to Enlighten which comply with RCUK's requirements for providing funder and data set references. These have been added in the document upload section of the Enlighten deposit workflow and will assist us in reporting the number of papers which are green or gold open access. (See Figure 7.)

Figure 7. Document upload with green/gold

Requesting updates (and corrections)

In May 2011 we launched a new 'request a correction' feature for Enlighten to make it easier for our authors and their staff to request updates and changes to records which are live and publicly available in Enlighten.

These requests enable authors to:

- claim a publication so that it is linked to their name

- update the publication status from 'In Press' to 'Published'

- amend bibliographic details like page numbers, issue or volume

- provide funder details.

A 'request a correction' text link was added to the bottom of each record. The link takes requesters to a simple form which asks for a University e-mail address and provides an input box for the request itself. This was based on the 'request a copy' feature which was already part of EPrints core code. (See Figure 8.)

Request A Correction

Nixon, W. (2010) *Enrich: improving integration between an institutional repository and a CRIS at the University of Glasgow*. In: Stempfhuber, M. and Thidemann, N. (eds.) Connecting Science with Society: The Role of Research Information in a Knowledge Based Society. Toptryk Grafisk ApS, Aalborg, Denmark, pp. 55-64. ISBN 9788773079874

⭐ **Email address**
Enter your email address. For corrections please ensure that you use your @glasgow.ac.uk e-mail address.

Reason
Please enter a reason for your request.

[Request a Correction]

Figure 8. 'Request a correction' feature

The requests are e-mailed to the Enlighten team's e-mail account where they are profiled as helpdesk calls with the category 'amend a record'. These requests appear as calls in SupportWorks and the team automatically receives an e-mail alert. Staff can accept a call and it is then easy to identify the status of the call, who is dealing with it and how it is progressing. (See Figure 9.)

Normal   F0285681   William Nixon   Library 91103000
A correction to this item in Enlighten has been requested by william.nixon@glasgow.ac.uk. Please can you respond. Nixon, W.<http://eprints.gla.ac.uk/view/author/461.html> (2010) Enrich: improving integration between an institutional
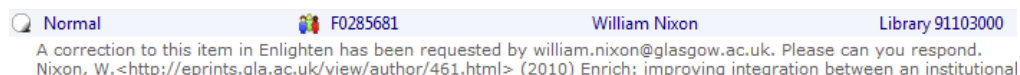
Figure 9. Example of a SupportWorks call

With the advent of the new APC workflow, we have added new OA profiles in SupportWorks. This will enable us to flag these papers and ensure they are prioritized for review and processing. The use of the call profiles also enables us to run reports on the range of calls which we receive and to provide a breakdown on the type of requests we receive from staff. (See Figure 10.)
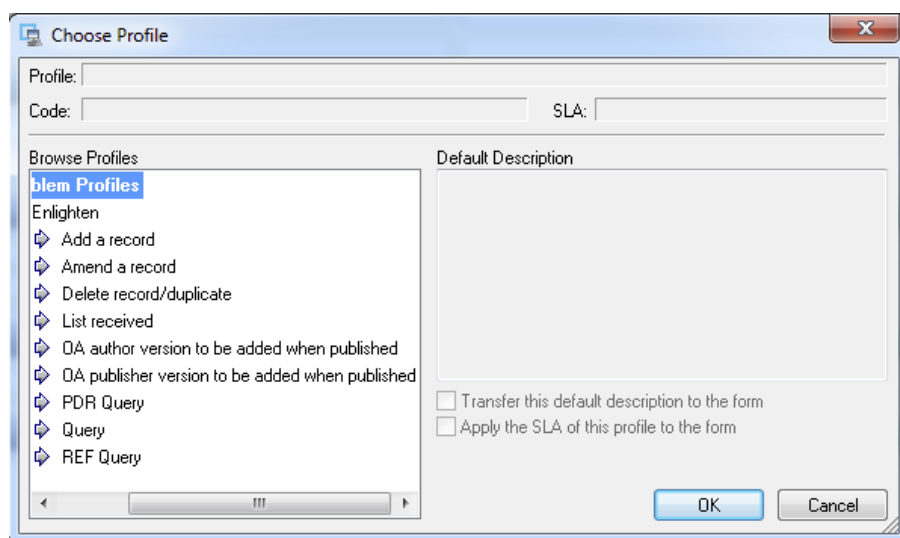

Figure 10. SupportWorks OA profiles

Looking ahead

The evolution of our support for these research funder workflows is ongoing but we have a clear direction of travel which will ensure that Enlighten can support the open access aims of our funders and the University. Beyond the research councils, the Higher Education Funding Council for England (HEFCE) has indicated that it will 'consult formally on the role of open-access publishing in the submission outputs to the post-2014 Research Excellence Framework (REF).'[9] Enlighten plays a key role in the University's REF2014 exercise and as we look ahead, there are opportunities for both open access and repositories to further drive change and to increase the impact of research.

Our initial funding workflows have provided us with a rich collection of data which has allowed us to link publications to grants and, in turn, centrally manage our reporting to external systems like RCUK's Research Outcomes System.

Our next steps will focus on improving the capture of the funder data, streamlining our processes for managing green and gold OA, and embedding Enlighten much earlier in the deposit process. At the moment, papers are only deposited after they have been published or are in production at the publisher. In the future, we anticipate that Enlighten will accept the paper at the point at which it has been accepted by the publisher – and at that point we can also capture the funder data as well as provide guidance on APCs as appropriate.

We have also recently become a member institution of ORCID (Open Researcher and Contributor ID)[10] and will be exploring the use of its unique researcher identifier to improve the ingest of data held in Enlighten from services such as Web of Science and Scopus as these identifiers become available in those services. In addition, we are implementing a pilot data registry repository, exploring the links between publications and their associated research data, and linking these as staff indicate the availability of research data.

RCUK's policy on open access is still very new and Library staff will be conducting an ongoing advocacy campaign across the University to raise awareness of the policy and the University's approach in managing that policy. They will also be assisting staff in complying with their grant conditions. This work is the natural extension of our previous open access campaigns, building on their success and reflecting changes in policy.

Technically, we will be focusing on the recently released version 1.0 of the RIOXX metadata profile and guidelines and the implementation of the EPrints plugin for RIOXX. The key impetus 'for the development of these national guidelines is the Government-driven need for Research Councils to be able to identify the research outputs from projects they have funded'[11] and this dovetails with our work in Enlighten to capture funder data and its subsequent re-use for reporting to funding bodies.

It will continue to be an exciting time to be working with repositories and research systems as new guidelines like RIOXX and new services like ORCID continue to emerge alongside new processes for reporting (e.g. to the Research Outcome System).

> "…we anticipate that Enlighten will accept the paper at the point at which it has been accepted by the publisher …"

> "we are …exploring the links between publications and their associated research data …"

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